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United States Department of the Interior
Fish and Wildlife Service

Fishery Leaflet 77

Chicago 54, Illinois Rev. July 1945

THE FUR-SEAL INDUSTRY OF THE PRIBILOF ISLANDS, ALASKA

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INTRODUCTION

The fur seals in which the United States is chiefly interested have their breeding grounds on the Pribilof Islands, Bering Sea, Alaska. Insofar as is known they never go ashore at any other place. There each summer the young are born. In the fall, after the breeding season is over, the seals leave the islands on their annual migration at sea. They proceed southward, some going as far as the latitude of southern California. They return again to the islands in the following spring and summer.

These seals belong to a species distinct from any other fur seals. Other species are found on the Commander Islands, off the Siberian Coast, belonging to Russia, and on Robben Island, in the eastern part of Okhotsk Sea, belonging to Japan. Fur seals are found also on Lobos Island, Uruguay, off Cape of Good Hope, Africa, and to a very limited extent in other cold parts of the southern hemisphere. It is safe to say, however, that the American herd comprises about 80 percent of all the existing fur seals in the world. Fur seals, of course, are not to be confused with ordinary hair seals, which have no soft under-fur and which are very commonly and widely distributed over the world.

EARLY HISTORY OF PRIBILOF ISLANDS FUR-SEAL INDUSTRY

It was in 1786, 45 years after the discovery of Alaska, that Gerassim Pribilof, a Russian navigator, discovered the Pribilof Islands, a treeless group of volcanic origin located in Bering Sea, about 300 miles off the mainland of Alaska. There are five islands in the group, but three of them are small and relatively unimportant. St. Paul Island, about 14 miles in length, St. George Island, 12 miles long, and Sea Lion Rock, a small islet adjacent to St. Paul, are the breeding grounds of the North American or Alaska fur-seal herd, which embraces approximately 80 percent of the fur seals of the world.

The Pribilof Islands were under Russian management for 81 years from the time of discovery until 1867 when Alaska was purchased by the United States. It is probable that before discovery the Pribilof herd may have contained as many as 4 million animals. Records indicate that prior to 1834 about 2 million pelts were taken under Russian auspices, and by that year the herd had become so reduced

in numbers that restrictive measures were applied. From 1835 to 1867 about 600,000 pelts were taken at the Pribilof Islands and in this period of restricted killing the herd increased to probably 3 million animals.

In the years 1868 and 1869, immediately following the purchase of Alaska, approximately 329,000 fur seals were killed on the Pribilofs by various independent groups.

LEASING SYSTEM

For a period of 40 years, from May 1, 1870, to May 1, 1910, the right to take fur-seal skins on the Pribilof Islands was leased by the United States Government to private corporations. There were two leases, each for a period of 20 years. The annual take of sealskins under the first lease was frequently in excess of 100,000, and the total for the first 20-year period was 1,977,377. Under the second lease, however, there was only one year, 1896, in which the take amounted to as much as 30,000 skins, and the total obtained by the lessee during the 20 years ending May 1, 1910, was 342,651 skins.

The foregoing figures indicate the effect of pelagic sealing operations which had been carried on for some time in a small way, but which in the latter part of the 19th century developed to such proportions as to threaten the existence of the herd, at least from the standpoint of its being an economic resource.

PELAGIC SEALING

Pelagic sealing, or the killing of seals while they are in the sea, is destructive alike of males and females. This practice is economically wasteful in that many of the seals killed are not secured, and the skins are accordingly lost. Also, after the birth of the young, each mother killed while temporarily at sea for food means the loss of her pup, which is left alone on the rookeries to starve, as the mother seal never suckles any but her own pup.

INTERNATIONAL PROTECTION OF FUR SEALS OF THE NORTH PACIFIC OCEAN

Pelagic sealing in the North Pacific Ocean was not confined to the nationals of any one Government, and with the increase in operations at sea it was soon realized that only by an international agreement could the Pribilof Islands herd be conserved. Diplomatic negotiations with regard to the matter extended over a period of years, but it was not until July 7, 1911, that effective international protection was given to the Pribilof Islands herd. On that date a convention was concluded between the United States, Great Britain, Japan, and Russia, which became effective December 15, 1911, and for the first time subsequent to the development of pelagic sealing the way was cleared for effective conservation and economic use of the Pribilof Islands fur seals.

An outstanding feature of the convention was that it prohibited pelagic sealing in waters of the North Pacific Ocean north of the 30th parallel of north latitude, except for the limited operations by primitive methods carried on by Indians and other aborigines dwelling on the coasts of the protected waters.

This convention, which was commonly known as the North Pacific Sealing Convention, also afforded protection to the Japanese fur-seal herd at Robben Island, estimated to contain not more than 50,000 animals, and the Russian herd at the Commander Islands, with probably less than 100,000 animals.

As a result of the notice of abrogation dated October 23, 1940, given by the Government of Japan, the Convention of July 7, 1911, for the preservation and protection of fur seals was terminated on October 23, 1941. In connection with the notice it was indicated by the Japanese Government that both direct and indirect damage was alleged to have been inflicted on the Japanese fishing industry by the increased population of fur seals.

Plans for an extensive investigation of the migratory and feeding habits of the fur seals, as well as the entire life history of these animals and of their relationship to the fisheries and to other economic interests, were interrupted at the outbreak of war in December 1941.

A provisional fur-seal agreement by the United States and the Dominion of Canada was effected by an exchange of notes signed by the Secretary of State on December 8 and by the Canadian Minister on December 19, 1942. On February 26, 1944, the President of the United States signed a new Alaska fur-seal law giving effect to the 1942 provisional agreement. With enforcing legislation by the Canadian Government, the agreement provides, among other things, that 20 percent of the skins taken on the Pribilof Islands shall become the property of Canada, the remainder to be retained by the United States. The Act of February 26, 1944 brings together, with only minor changes, all previous legislation directly affecting the Pribilof Islands fur-seal herd.

GOVERNMENT MANAGEMENT OF FUR-SEAL HERD

When the Government assumed direct control in 1910 and began all sealing operations at the Pribilof Islands on its own account, the fur-seal herd numbered only about 130,000 animals. The annual computation of 1944 showed that it contained 2,945,663 animals.

It is of interest to consider the official nomenclature applied to the Alaska fur-seal herd. The adult males are called "bulls," the adult females "cows," the immature males from which killings are made for pelts are called "bachelors," and the young of the seals of both sexes are designated as "pups." The female group associated with a bull is known as the "harem."

In considering the fur-seal life at the Pribilof Islands, the great disparity in the sizes of the sexes at maturity is worthy of note. The breeding bulls average more than 500 pounds in weight and attain a mixmum of upwards of 700 pounds. The cows average 75 pounds and rarely attain a weight of 100 pounds. The cows give birth to their first pup at 3 years of age but the males do not mature until 6 or 7 years of age. The period of gestation is about 11 months and each cow bears but one pup a year. At birth the pups are remarkably large considering the size of the mother, averaging about 12 pounds in weight. They are jet black in color at this time but toward fall take on the characteristic grayish brown color of the older fur seals.

The fact that fur seals are polygamous makes it possible to kill the surplus bachelor animals without decreasing the number of young that may be born. A harem often contains about 40 cows but there are records of upwards of 100 cows in a single harem.

In the annual migration northward, the breeding bulls are the first to reach the Pribilof Islands, the earliest arrivals being late in March or early in April, before the ice has disappeared entirely. These are a few of the advance

guard, as the main body does not begin to put in an appearance until May and for the most part not until June. Some do not arrive until early July. The southward migration begins in September.

As the Pribilof Islands are a special Government reservation and no person or vessel may proceed there except under stress of weather, comparatively few persons have had the opportunity of observing the remarkable assemblage of seal life. At the height of the breeding season in July one may observe from a single 300-foot hill rookeries containing more than 100,000 seals in massed array on a few acres of ground. No similar scene can be found anywhere else in the world.

The following describes briefly the methods employed by the United States in protecting and utilizing the fur seals of the Pribilof Islands:

1. Patrol.-A patrol composed of vessels of the Coast Guard and of the Fish and Wildlife Service is maintained in the waters frequented by the seals. This patrol is continued during such portions of each year as is deemed necessary. Provision also is made for protecting the Pribilof Islands from raiders.

2. Authentication of sealskins lawfully taken by Indians.-All fur-seal skins taken at sea by Indians subject to the jurisdiction of the United States must be marked and certified by an agent of the Government as having been lawfully taken before they are permitted to be shipped to market. Fur-seal skins unlawfully taken in the protected waters of the North Pacific are seized wherever found in the United States and sold for the account of the Government. Owing to the patrol that is maintained and the penalties involved, the number of skins unlawfully taken from these waters is very small.

3. Annual computation.-A careful computation is made annually of the number of animals in the herd as a whole and in the various age classes. These figures provide the basis for determining the number of animals that may properly be killed the following year.

4. Selection of animals for killing.-Killings on the Pribilof Islands are confined exclusively to males, and, insofar as practicable, to those 3 years of age. Considering the number of animals available, the size of the skin, and quality of the fur, the 3-year-old males yield pelts of maximum value. The habits of the fur seals while on land result in the young males herding by themselves, and this makes it possible to drive and kill 3-year-olds without disturbing the breeding animals.

5. Reserve of breeding stock.-A suitable reserve of 3-year-old males is made each year for breeding stock. The number of this age class to be reserved is determined from observations as to the increase in the herd, the number of breeding males available, and the average size of the harems. Formerly several thousand 3-year-old males for the reserve were marked each season by shearing a patch of fur. Since 1932, however, it has been the practice to take all 3-year-old males that appear in the drives and to discontinue killing in ample time to assure an appropriate reserve for future breeding requirements.

6. Persons engaged in sealing operations at Pribilof Islands.-The Pribilof Islands are a Government reservation and it is unlawful for any person to land or remain on any of these islands, except through stress of weather or like unavoidable cause or by the authority of the Secretary of the Interior.

The taking of skins, as well as all other work in connection with the fur seals at the islands, is done under the immediate supervision of Government agents. Labor involved is performed largely by the resident Aleuts, descendants of the people moved there in early days by the Russians for the purpose of utilizing the fur resources of the islands. Some temporary labor from the outside, however, is necessary each season.

PREPARATION OF PRIBILOF ISLANDS FUR-SEAL SKINS FOR MARKET

The taking of fur-seal skins at the Pribilof Islands is entirely a Government enterprise under the immediate direction of the Fish and Wildlife Service. In due course these skins are sold at auction and the net proceeds turned over to the Treasury of the United States. The skins are not marketed in a raw salted condition, as was the case years ago, but are now dressed and dyed before being offered for sale.

Establishment of fur-seal processing plant in United States.-Prior to 1913 the fur-seal skins taken on the Pribilof Islands were shipped to London for sale in a raw salted condition. Aside from being the world's chief sealskin market, London was then the principal center for the dressing and dyeing of fur-seal skins. Most of the Pribilof Islands sealskins, after being dressed and dyed, were returned to the United States for use.

Soon after the Government assumed direct management of the fur-seal industry at the Pribilof Islands, upon expiration of the lease of sealing privileges to private enterprise in 1910, steps were taken to market the Government's fur-seal skins in this country and to bring about the establishment of a commercial plant in the United States where such skins would be dressed and dyed before being sold. This action resulted in the building of a plant at St. Louis, Mo., but owing to market conditions in the early years of World War I, it was not until September 1916 that the first of the Government's dressed and dyed fur-seal skins were sold. Since that time all Pribilof Islands sealskins placed on the market, except a few sold raw or prepared for special purposes, have been offered in a dressed and dyed condition, all the work being done in St. Louis by the Fouke Fur Company, which at present has a contract for this work, and where extensive facilities and men specially trained in the technique of dressing and dyeing fur-seal skins are available.

Curing of sealskins.-Fur-seal skins taken at the Pribilof Islands are cured in salt before they are shipped to the States. When the skins are removed from the seals there remains attached to them a layer of blubber or fat. While it is not necessary to remove this layer, unless it is too thick to permit curing at the Pribilofs, most of the skins now are freed of blubber prior to being cured for shipment to the dressing and dyeing plant.

Dressing and dyeing of sealskins.-After the skins are received at the plant in St. Louis they are carefully inspected for defects or imperfections which would make them unfit for processing, and are then graded as to size and quality. Inasmuch as most of the skins are blubbered at the Pribilof Islands, not many remain to be blubbered at the plant. Those blubbered at the islands go directly to the washing machines, while the unblubbered skins are first cleaned of blubber and then washed. After washing, each skin is laced in an oval iron hoop where it is stretched to its proper size and shape before being hung in a heated room to dry. This allows them to dry evenly without wrinkling or shrinking.

The next major step is the removal of the coarse guard hair which grows out over and protects the fur. The skins are subjected to considerable dry heat in specially designed cockles until the guard hair is loosened and can be removed without damage to the fur. This is one of the most delicate steps in the processing of the skins. In unhairing, the skins are laid over beaming boards and the hair is pulled out with a downward scraping movement of a two-handled curved knife, the edge of which is just dull enough to prevent cutting the hair and fur.

After the skins are unhaired, they are given a dressing and cleaned with fine hardwood sawdust. Then follows the dyeing process. This consists of applying a grounding solution to prepare the fur for the dye, followed by several applications of the dye until the desired color and luster are obtained.

Fur-seal skins formerly were all dyed black, but in response to the market demand a satisfactory brown dye was developed and first offered to the trade in 1924. Subsequently other shades of brown have replaced the one originally used. At present, in addition to the time-honored black, two shades of brown are available--Safari brown, which has been popular since its first introduction in 1934, and Matara brown, a neutral shade, offered for the first time at the sale on October 2, 1939.

After dyeing, the skins are machined or put through a specialized process to remove any short guard hairs that may have been left in the unhairing operation. Following this, any excess of leather is removed on emery-covered revolving rollers. The skins are then given a final cleaning and inspection and graded in readiness for sale.

In the dressing and dyeing of fur-seal skins infinite care is taken to assure a superfine product. More than one hundred distinct processes are involved in treating each skin, and the minimum time required is approximately 60 days. No wonder that certain processes and formulas are closely guarded secrets. A pronounced advantage of this product also is its remarkable durability, both as to fastness of color and wearing quality.

GROWTH OF ALASKA FUR-SEAL HERD AND ANNUAL TAKE OF SEALSKINS

The following table gives data as to the size of the Alaska fur-seal herd and the number of sealskins taken at the Pribilof Islands under Government management:

Computation of Pribilof Islands fur-seal herd and number of sealskins taken by the Government, 1910-1944

Year	Sealskins obtained	Animals in herd	Year	Sealskins obtained	Animals in herd
1910	12,964	132,279	1920	26,648	552,718
1911	12,138	123,600	1921	23,681	581,443
1912	3,191	215,738	1922	31,156	604,962
1913	2,406	268,305	1923	15,920	653,008
1914	2,735	294,687	1924	17,219	697,158
1915	3,947	363,872	1925	19,860	723,050
1916	6,468	417,281	1926	22,131	761,281
1917	8,170	468,692	1927	24,942	808,870
1918	34,890	496,432	1928	31,099	871,513
1919	27,821	524,235	1929	40,068	971,527

Computation of Pribilof Islands fur-seal herd and number of sealskins taken by the Government, 1910-1944 -- (Continued)

Year	Sealskins obtained	Animals in herd	Year	Sealskins obtained	Animals in herd
1930	42,500	1,045,101	1938	58,364	1,872,438
1931	49,524	1,127,082	1939	60,473	2,020,774
1932	49,336	1,219,961	1940	65,263	2,185,136
1933	54,550	1,318,568	1941	95,013	2,338,312
1934	53,470	1,430,418	1942	150	2,585,397
1935	57,296	1,550,913	1943	117,164	2,720,780
1936	52,446	1,689,743	1944	47,652	2,945,663
1937	55,180	1,839,119			

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